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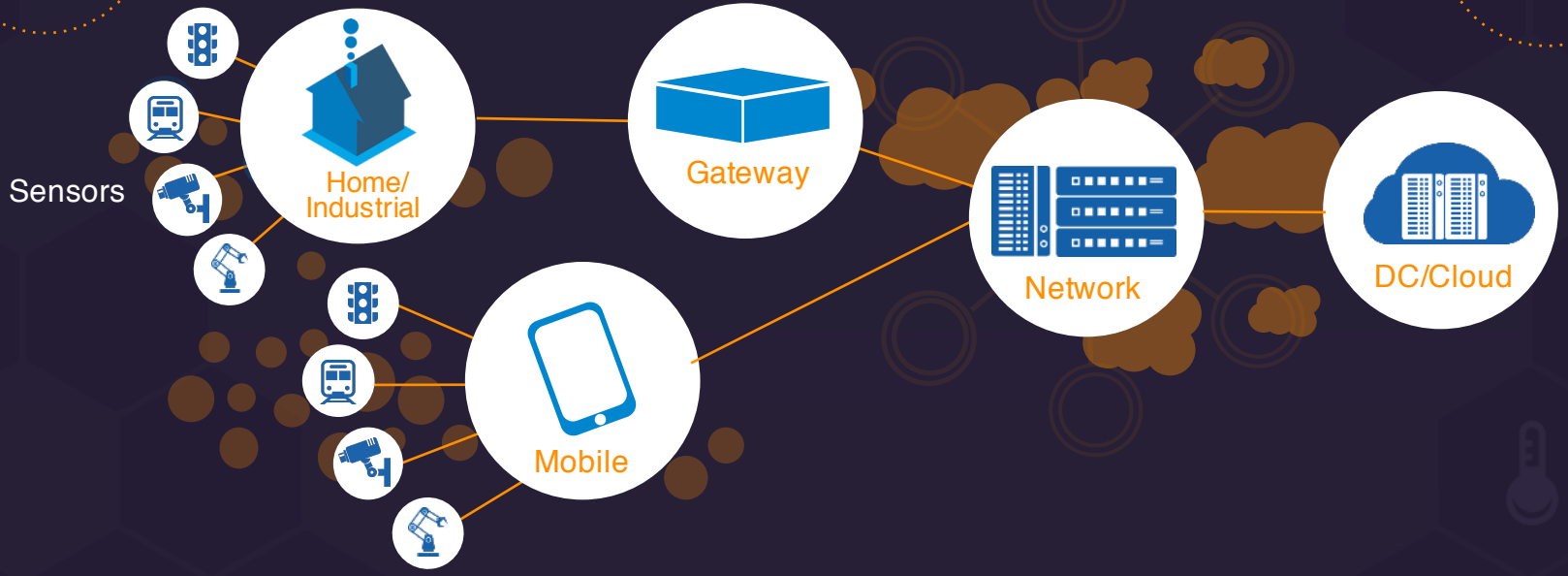
The Internet of Things is…
Intelligence Everywhere

50B
DEVICES*
*

44
ZETABYTES**



COST OF SENSORS **2X** PAST 10 YEARS

COST OF BANDWIDTH **40X** PAST 10 YEARS

COST OF PROCESSING **60X** PAST 10 YEARS ***

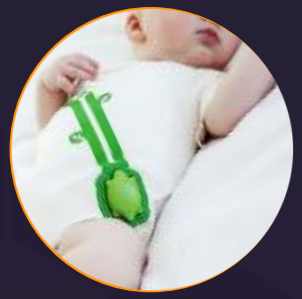
* IDC

** IMC/EDC: The Digital Universe of Opportunities

*** Goldman Sachs

A Wide Array of Applications

Sleep Monitoring



A Kimono with sensors monitors the baby's temperature, breathing and communicates with parents.*

Responsive Coaching

Running App Personalizes Workouts Based On Current Stamina

Medical Research

Bringing medical research into the 21st century

Cloud Memory

Wearable Camera Life Blogs By Snapping Photos Throughout The Day

The possibilities are endless.

“Things” have many challenges

Different Devices & Capabilities

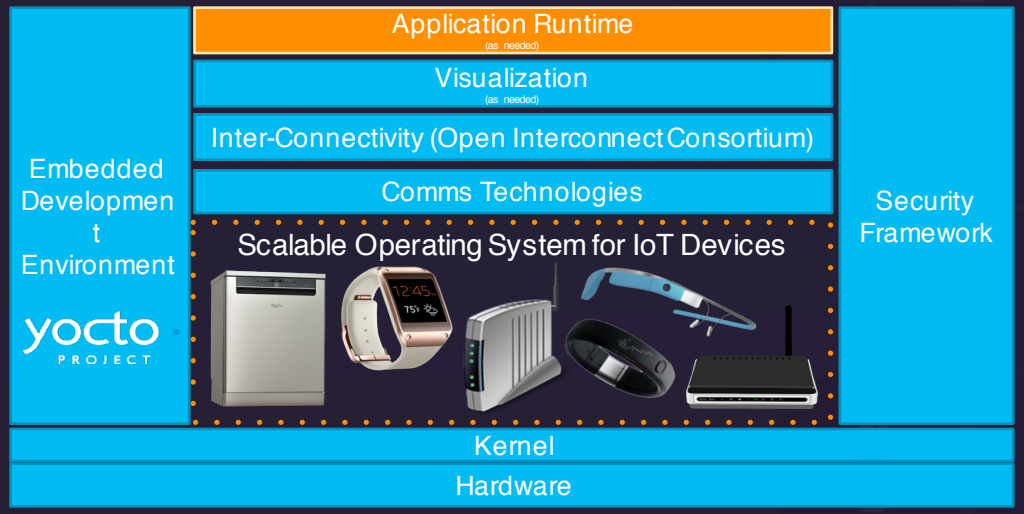
Many software solution options

Need to prototype easily

Solving these challenges requires scale, tools, and easy adoption.

Vision: A Flexible Framework for IoT solutions

Highly configurable, multi-architecture, strong upstream alignment



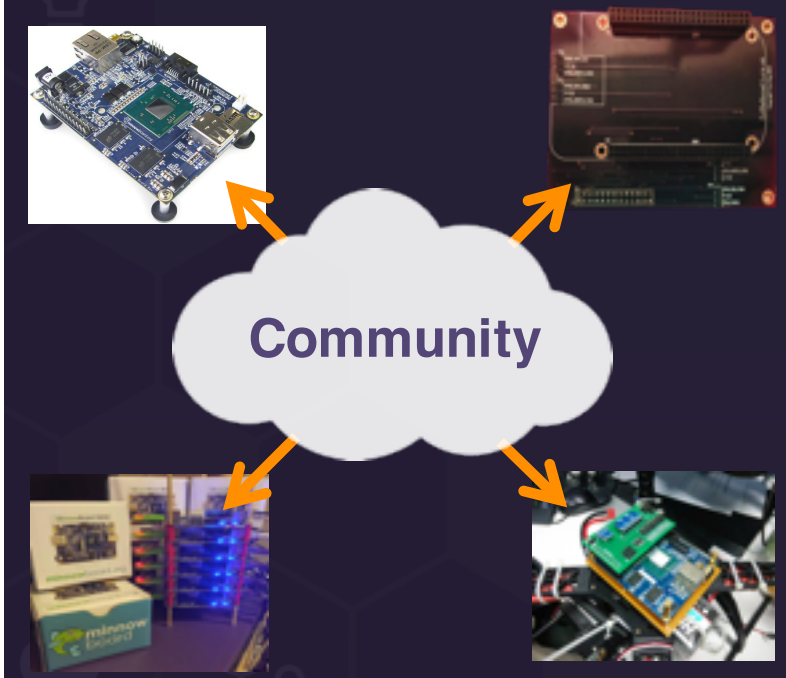
Crosswalk Project

- Run time for web apps (HTML, CSS, JavaScript)
- Up to date version of Blink and Chromium
- Modern Web APIs with extensions
- Latest web innovations with minimal code changes
- Robust Security, Performance and web standards
- IoT support including node.js for wearables, etc.

A runtime for ambitious web apps on more devices!

* Other names and brands may be claimed as the property of others.

MinnowBoard MAX



- Low-cost development board based on Intel® Atom™ processor
- Grown from an open source project
- Designed for software development
- Focus on flexibility, openness and standards
- More than a board, includes a community

With open hardware and community, innovation happens.

Embedded Development Environment

yocto PROJECT

Application Runtime (as needed)

Visualization (as needed)

Inter-Connectivity (Open Interconnect Consortium)

Comms Technologies

Scalable Operating System for IoT Devices

Security Framework

Kernel

Hardware

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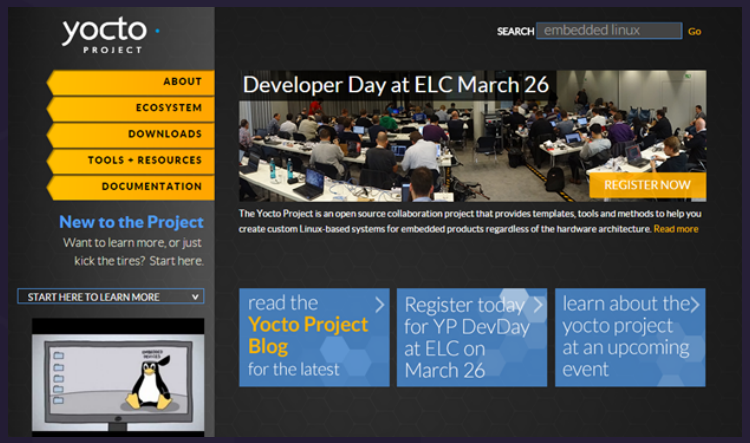
Yocto Project



- A unified framework for embedded software development
- Easy Linux customization across multiple architectures
- Many major distros are based on Yocto Project including Wind River Linux
- Continuous evolution makes Yocto Project unique
- Focus on overall developer experience and ease of use

Delivering more features for the ever-evolving IoT developer needs

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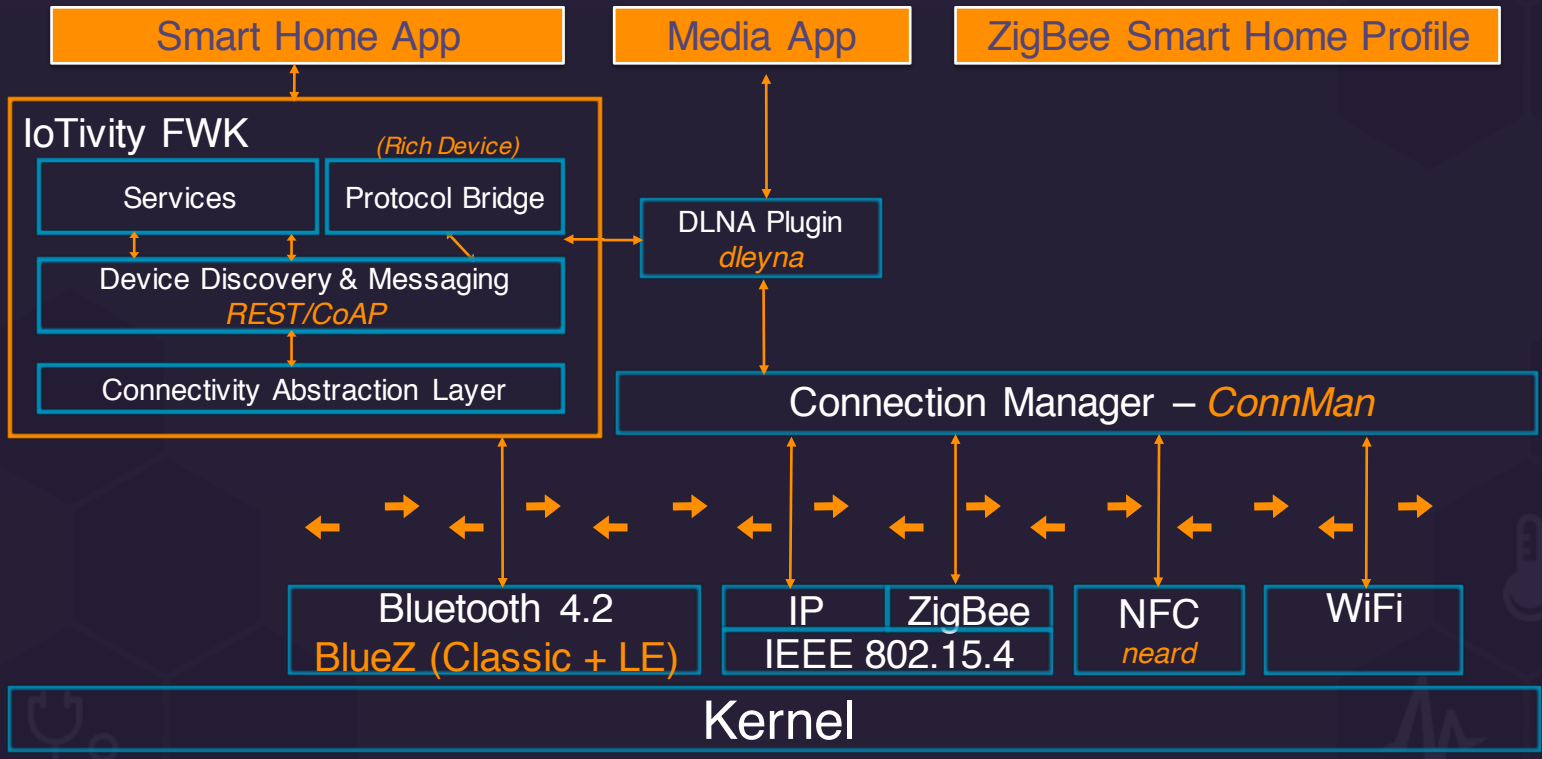
IoT Comms Infrastructure



Comprehensive comms framework for any type of implementation.

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Embedded Development Environment

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Kernel

Hardware

Linux Kernel Tinification

- Minimizing the kernel – static and dynamic
- Tinification improvements continually upstreamed
- Goal to achieve Min Kernel / User space size < 1 MB
- XIP support for Intel Architecture
- Kernel 3.19
  - Full networking, text size is 750k
  - Non-networking, text size ~500K

Shrinking the kernel to enable the smallest devices

Application Runtime
(as needed)

Visualization
(as needed)

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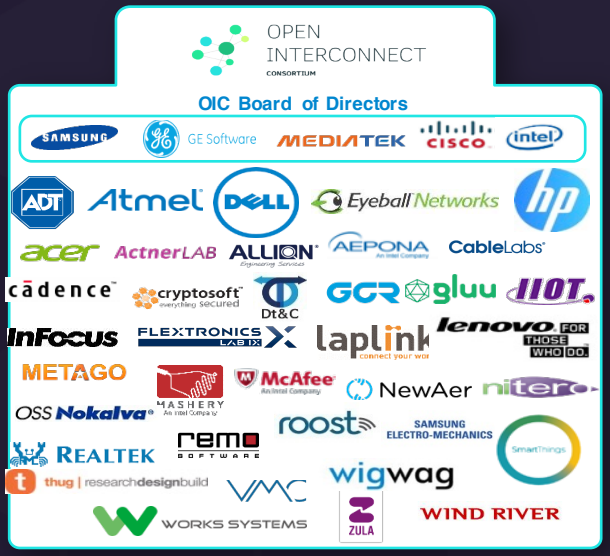
Building Connectivity Standards



OPEN INTERCONNECT CONSORTIUM SM

Industry Standards + Open Source Solutions = Interoperability

60+

Open source and standards to foster innovation.

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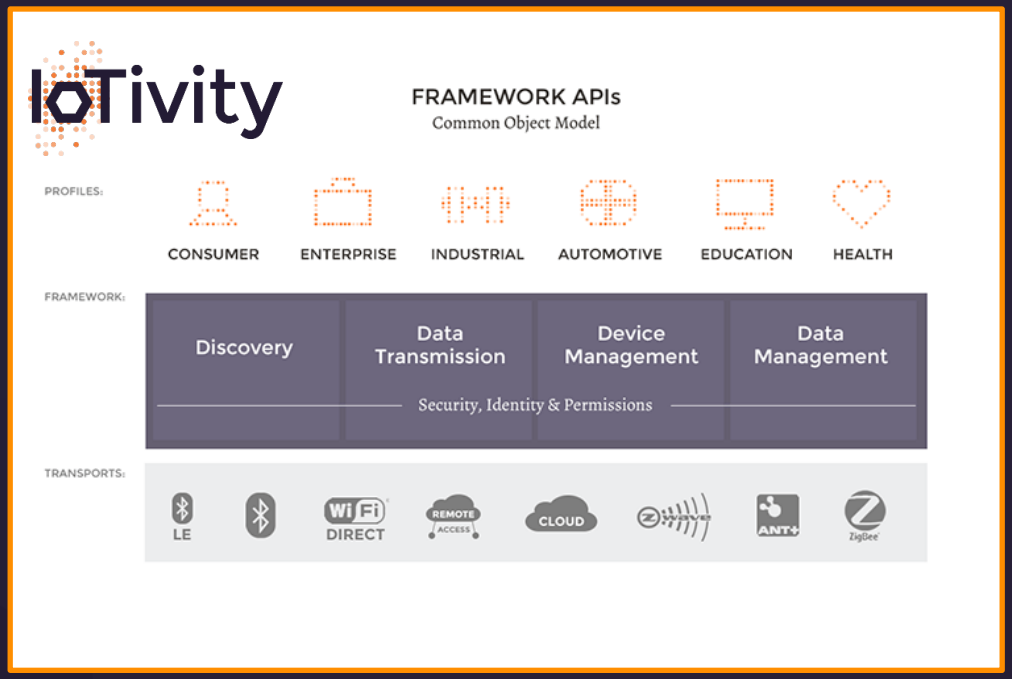
OIC Reference Implementation



An extensible and robust architecture for smart and thin devices.

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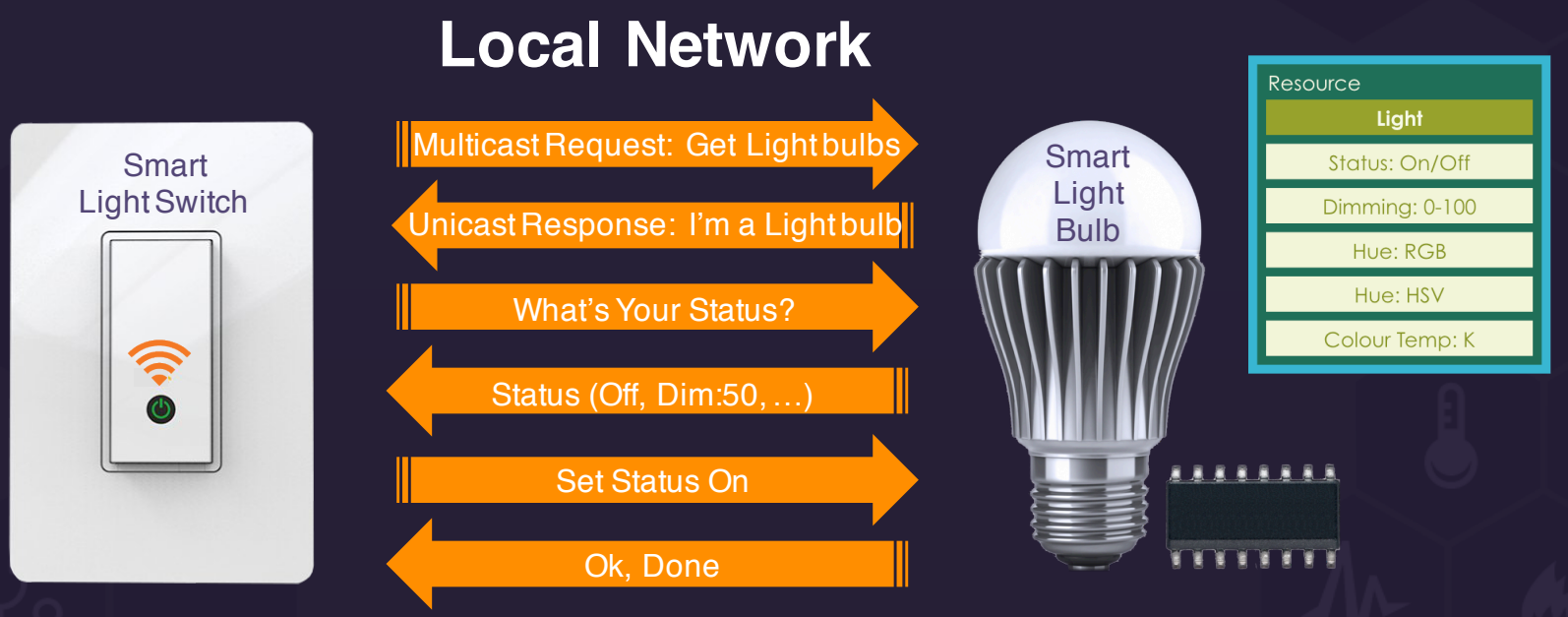
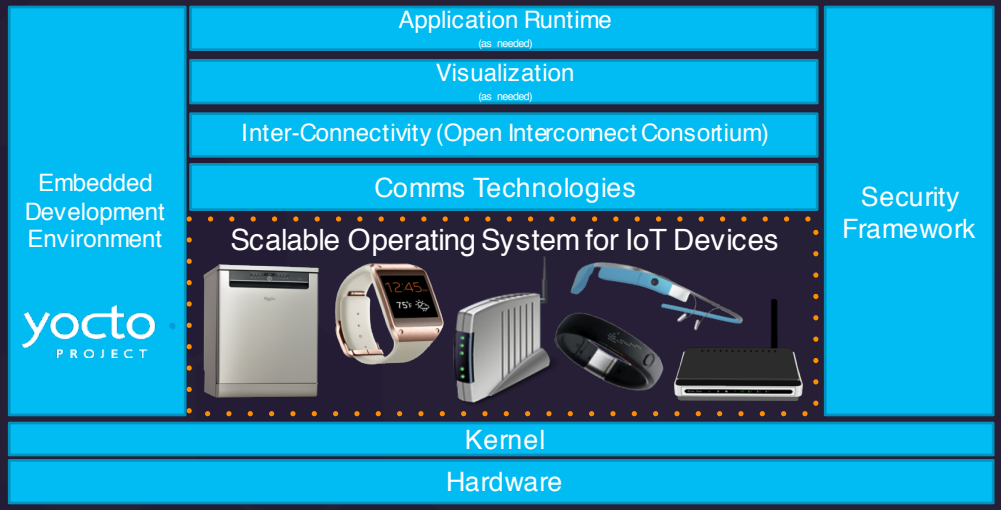
OIC Example


Local Network
Smart Light Switch
Multicast Request: Get Light bulbs
Unicast Response: I'm a Light bulb
What's Your Status?
Status (Off, Dim:50, …)
Set Status On
Ok, Done
Smart Light Bulb
Resource
Light
Status: On/Off
Dimming: 0-100
Hue: RGB
Hue: HSV
Colour Temp: K

Summary



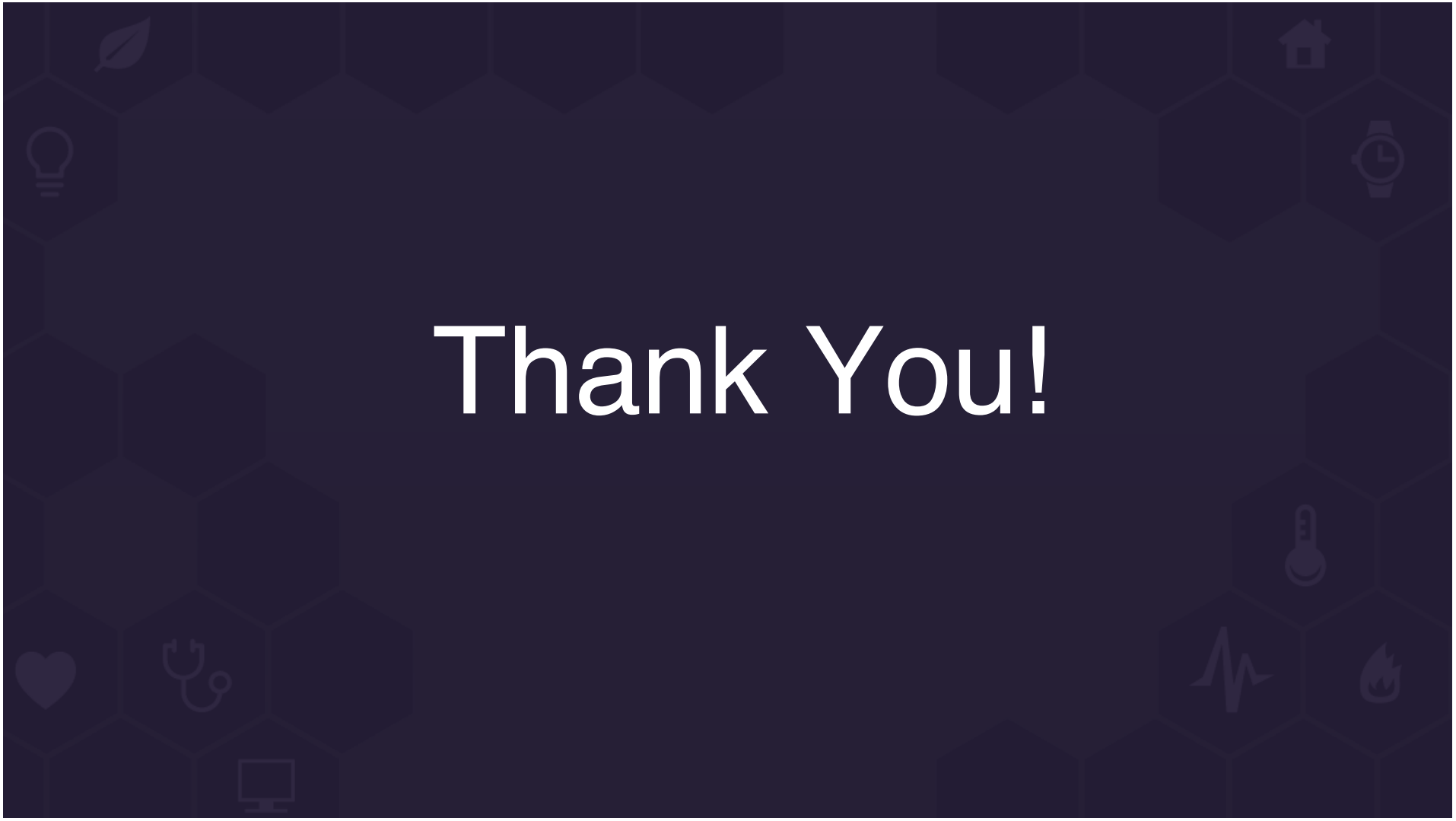
Delivering a flexible framework for IoT solutions that…

- ✓ Provides ways to scale
- ✓ Delivers key tools & capabilities
- ✓ Eases creation of your solutions

Our ask of you

- Visit the Intel booth to see these solutions in action
- Attend Intel sessions to learn more about what we're doing with open source and IoT
- Get involved with these projects and make your contributions

For more information: Intel booth #1 and Intel sessions and 01.org


Thank You!